1-6. (CANCELED)

7. (NEW) A method of manufacturing an optical fiber including a silica glass fiber, the method comprising the steps of:

spinning a silica glass fiber from a base material;

irradiating the silica glass fiber with ultraviolet radiation to purposefully cause multiple structural defects in the silica glass fiber;

removing the multiple structural defects from the spinning step of the silica glass fiber by at least residual heat from the spinning process of the silica glass fiber and, if necessary, further heating the silica glass fiber to improve a resistance of the silica glass fiber to ultraviolet radiation; and

applying an insulation coating around the silica glass fiber;

optionally further heating the fiber to remove the structural defects either prior to or after applying the insulation coating.

8. (NEW) The method of manufacturing an optical fiber of claim 7, further comprising the steps of:

irradiating the silica glass fiber with ultraviolet radiation having a wavelength of approximately between 50nm and 300nm and an intensity of approximately between 0.01 mJ/cm^3 and 1000 mJ/cm^3; and

passing the silica glass fiber through a fiber measuring device to measure a diameter of the silica glass fiber and controlling a spinning speed of the silica glass fiber depending on the measured diameter of the silica glass fiber passing through the fiber measuring device.

9. (NEW) A method of processing a silica glass fiber, defining a longitudinal axis, to decrease resistance to transmission of ultraviolet radiation through the silica glass fiber comprising the steps of:

a) spinning the silica glass fiber;

b) irradiating the spun fiber, transversely of the axis, to cause multiple structural defects adjacent an irradiated portion of the fiber;

c) heating the irradiated portion of the spun fiber to remove the multiple structural defects therein and to decrease resistance to transmission of ultraviolet radiation through the irradiated portion of the fiber;

d) continuing to irradiate the spun fiber, as the spun fiber passes through an irradiation location, and using additional heat to remove the multiple structural defects;

e) applying an insulation coating around the silica glass fiber;

f) optionally further heating the fiber to remove the structural defects either prior to or after applying the insulation coating.

10. (NEW) The method of processing a silica glass fiber of claim 9, further comprising the step of heating the irradiated portion of the fiber which has been irradiated to cause the structural defects to remove the structural defects.

11. (NEW) The method of processing a silica glass fiber of claim 9, further comprising the steps of:

irradiating the silica glass fiber with ultraviolet radiation having a wavelength of approximately between 50nm and 300nm and an intensity of approximately between 0.01 mJ/cm^3 and 1000 mJ/cm^3; and

passing the silica glass fiber through a fiber measuring device to measure a diameter of the silica glass fiber and controlling a spinning speed of the silica glass fiber depending on the measured diameter of the silica glass fiber passing through the fiber measuring device.

12. (NEW) A method of manufacturing an optical fiber, the method comprising the steps of:

heating and spinning a silica glass fiber from a base material of silica glass such that the silica glass fiber has an Si-O-Si network;

following the heating and spinning step, irradiating the silica glass fiber with ultraviolet radiation to cause a plurality of structural defects in the silica glass fiber;

increasing an average bond angle of the Si-O-Si network in the silica glass fiber with the heat created by a spinning furnace during the spinning process to remove the plurality of structural defects in the silica glass fiber thus improving ultraviolet resistance of the silica glass fiber; and

applying an insulation coating around the silica glass fiber.

13. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of irradiating the silica glass fiber with ultraviolet radiation having a wavelength of approximately between 50nm and 300nm.

14. (NEW) The method of manufacturing an optical fiber of claim 12,further comprising the step of irradiating the silica glass fiber with ultraviolet radiation having a wavelength of approximately 130nm and 250nm.

15. (NEW) The method of manufacturing an optical fiber of claim 12,further comprising the step of irradiating the silica glass fiber with ultraviolet radiation having a wavelength of approximately 150nm and 200nm.

16. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of irradiating the silica glass fiber with ultraviolet radiation having an intensity of approximately between 0.01 mJ/cm^3 and 1000 mJ/cm^3.

17. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of irradiating the silica glass fiber with ultraviolet radiation having an intensity of approximately between 1 mJ/cm^3 and 500 mJ/cm^3.

18. (NEW) The method of manufacturing an optical fiber of claim 15, further comprising the step of irradiating the silica glass fiber with ultraviolet radiation having an intensity of approximately between 1 mJ/cm^3 and 30 mJ/cm^3.

19. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of using one of ArF excimer laser, a KrF excimer laser, an excimer lamp and a deuterium lamp for irradiating the silica glass fiber with the ultraviolet radiation.

20. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of using a residual heat at a temperature of between approximately 100°C and 1600°C.

21. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of using a residual heat at a temperature of between approximately 200°C and 1400°C.

22. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of using a residual heat at a temperature of between approximately 300°C and 1300°C.

23. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the step of passing the silica glass fiber through a fiber measuring device to measure a diameter of the silica glass fiber and controlling a spinning speed of the silica glass fiber depending on the measured diameter of the silica glass fiber passing through the fiber measuring device.

24. (NEW) The method of manufacturing an optical fiber of claim 12, further comprising the steps of:

irradiating the silica glass fiber with ultraviolet radiation having a wavelength of approximately between 50nm and 300nm and an intensity of approximately between 0.01 mJ/cm^3 and 1000 mJ/cm^3; and

passing the silica glass fiber through a fiber measuring device to measure a diameter of the silica glass fiber and controlling a spinning speed of the silica glass fiber depending on the measured diameter of the silica glass fiber passing through the fiber measuring device.